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HEWLETT PACKARD COMPANY			SOLOMON, LISA	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)
	10/691,311	JUVE ET AL.
Examiner	Art Unit	
Lisa M. Solomon	2861	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 16 February 2007.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-7, 12, 14-20, 24, 25, 27 and 31-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) 12, 14, 16, 18-20, 24, 25, 27, 33, 34 and 37-39 is/are allowed.
- 6) Claim(s) 1-7, 15, 17, 31, 32, 35 and 36 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 22 October 2003 is/are: a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) Notice of Informal Patent Application
- 6) Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 35-36 are rejected under 35 U.S.C. 102(b) as being anticipated by Kao et al. (2002/0018086).

In re claim 1, Kao et al. (2002/0018086) teaches a printing system, comprising: an inkjet printhead (70, Fig. 1) having plural portions (76, Fig. 1) each having an ink-ejecting nozzle (82, Fig. 1) [Paragraph 4 lines 1-4, See also Fig. 1]; plural heater elements (78, Fig. 1) each associated with one of said plural portions (76) to pre-warm ink dispensed by the nozzle (82) of said associated portion (76) in response to a pre-warming signal [Paragraph 4 lines 7-10, Paragraph 5, Paragraph 6 lines 9-12]; and a controller (60, Fig. 2) configured to analyze an upcoming print swath to determine which of said plural portions (76) are required to eject ink in order to print the swath in accordance with a predefined selection criteria [Paragraph 5, Paragraph 6, Paragraph 7 lines 2-23], and before starting to print the swath, supply the pre-warming signal to one or more heater elements (78) of only the portions required to eject ink to print the swath in accordance with the predefined selection criteria [Paragraph 5, Paragraph 6, and Paragraph 7 lines 23-26].

In re claim 35, *Kao et al. (2002/0018086)* teaches the printing system of claim 1, wherein each plural portion (76, Fig. 1) has a plurality of ink-ejecting nozzles [See Fig. 1].

In re claim 36, *Kao et al. (2002/0018086)* teaches the printing system of claim 35, wherein each plural portion defines a linear array of ink-ejecting nozzles [See Fig. 1].

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Kao et al. (2002/0018086)* in view of *Cornell et al. (6,296,350)* and *Giere et al. (6,612,673)*.

In re claim 1, *Kao et al. (2002/0018086)* teaches a printing system, comprising: an inkjet printhead (70, Fig. 1) having plural portions (76, Fig. 1) each having an ink-ejecting nozzle (82, Fig. 1) [Paragraph 4 lines 1-4, See also Fig. 1]; plural heater elements (78, Fig. 1) each associated with one of said plural portions (76) to pre-warm ink dispensed by the nozzle (82) of said associated portion (76) in response to a pre-warming signal [Paragraph 4 lines 7-10, Paragraph 5, Paragraph 6 lines 9-12]; and a controller (60, Fig. 2) configured to analyze an upcoming print swath to determine which

of said plural portions (76) are required to eject ink in order to print the swath in accordance with a predefined selection criteria [Paragraph 5, Paragraph 6, Paragraph 7 lines 2-23], and before starting to print the swath, supply the pre-warming signal to one or more heater elements (78) of only the portions required to eject ink to print the swath in accordance with the predefined selection criteria [Paragraph 5, Paragraph 6, and Paragraph 7 lines 23-26].

In re claim 2, *Kao et al. (2002/0018086)* teaches the printing system of claim 1 [see rejection above]. However, *Kao et al. (2002/0018086)* does not teach each of said plural portions is configured to dispense a different color of ink; and the controller is configured to analyze which of said different colors of ink is required for the upcoming print swath.

Cornell et al. (350') teaches each of said plural portions is configured to dispense a different color of ink [Column 2 lines 42-48; 61-Column 3 line 1]. However, *Cornell et al. (350')* does not teach a controller configured to analyze which of said different colors of ink is required for the upcoming print swath.

Giere et al. (673') teaches a controller is configured to analyze which of said different colors of ink is required for the upcoming print swath [Column 4 lines 16-25, Column 8 lines 13-25].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide plural portions configured to dispense a different color of ink as taught by *Cornell et al. (350')* in the printing system of *Kao et al. (2002/0018086)*

for the purposes of creating an image by ejecting ink droplets onto a paper substrate [Cornell et al. (350') Column 2 lines 31-33] and to provide a controller to analyze which of said different colors of ink are required for the upcoming print swath as taught by Giere et al. (673') in the printing system of Kao et al. (2002/0018086) in combination with Cornell et al. (350') for the purposes of for the purposes of effecting ink drop ejection [Giere et al. (673') Column 8 lines 26-40].

5. Claims 3-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kao et al. (2002/0018086) in view of Yamada et al. (6,359,701) and Peterson et al. (2003/0137575).

In re claim 3, Kao et al. (2002/0018086) teaches the printing system of claim 1 [see rejection above]. However, Kao et al. (2002/0018086) does not teach the selection criteria is based upon the type of media to receive ink dispensed from the printhead.

Yamada et al. (701') teaches the selection criteria is based upon the type of media to receive ink dispensed from the printhead [[Column 1 lines 55-58; 63-Column 2 line 3].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to base the selection criteria upon the type of media to receive ink as taught by Yamada et al. (701') in the printing system of Kao et al. (2002/0018086) for the purposes of determining printhead resolution automatically via a host computer [Yamada et al. (701') Column 1 lines 63-66].

In re claim 4, Kao et al. (2002/0018086) in combination with Yamada et al. (701') teaches the printing system of claim 3. However, Kao et al. (2002/0018086) does not teach one of said plural portions is configured to dispense ink of a first color having a first dye load; another of said plural portions is configured to dispense ink of the first color having a second dye load less than said first dye load; said controller is configured to interpret information to determine the type of media to receive ink dispensed from the printhead; and when a first type of media is determined, said one of said plural portions is selected for printing and not said another of said plural portions.

Yamada et al. (701') further teaches said controller is configured to interpret information to determine the type of media to receive ink dispensed from the printhead; and when a first type of media is determined, said one of said plural portions is selected for printing and not said another of said plural portions [Column 84 line 61-Column 16]. However, Yamada et al. (701') does not teach one of said plural portions is configured to dispense ink of a first color having a first dye load; another of said plural portions is configured to dispense ink of the first color having a second dye load less than said first dye load.

Peterson et al. (2003/0137575) teaches one of the plural portions is configured to dispense ink of a first color having a first dye load; another of the plural portions is configured to dispense ink of a first color having a second dye load less than said first dye load [Paragraphs 12, 35 and 36].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a controller configured to interpret information to determine the type of media to receive ink dispensed from the printhead and when the media type is determined one of said plural portions is selected for printing and not said another of said plural portions as taught by Yamada et al. (701') in the printing system of Kao et al. (2002/0018086) for the purposes of controlling the inkjet printer to print pixels that correspond to multi-level image data [Yamada et al. (701') Column 85 lines 1-3] and to provide plural portions configured to dispense ink of a first color having a first dye load from one of the plural portions and another of the plural portions to dispense ink of the first color having a second dye load less than the first dye load as taught by Peterson et al. (2003/0137575) in the printing system of Kao et al. (2002/0018086) in combination with Yamada et al. (701') for the purposes of reducing the problems associated with aerodynamic disturbances caused when ink drops are deposited on a printing surface [Peterson et al. (2003/0137575) Paragraph 11].

In re claim 5, Kao et al. (2002/0018086) in combination with Yamada et al. (701') and Peterson et al. (2003/0137575) teaches the printing system of claim 4. However, Kao et al. (2002/0018086) and Peterson et al. (2003/0137575) both do not teach wherein said first type of media comprises one of plain paper and transparency media.

Yamada et al. (701') further teaches the first type of media comprises one of plain paper and transparency media [Column 85 lines 3-6].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the first type of media to comprised one of plain paper and transparency media as taught by Yamada et al. (701') in the printing system of Kao et al. (2002/0018086) in combination with Yamada et al. (701') and Peterson et al. (2003/0137575) for the purposes of determining whether to print the target pixel in a multi-level image using a first or second ink [Yamada et al. (701') Column 85 lines 1-5].

In re claim 6, Kao et al. (2002/0018086) teaches a printing system, comprising: an inkjet printhead (70, Fig. 1) having plural portions (76, Fig. 1) each having an ink-ejecting nozzle (82, Fig. 1) [Paragraph 4 lines 1-4, See also Fig. 1]; plural heater elements (78, Fig. 1) each associated with one of said plural portions (76) to pre-warm ink dispensed by the nozzle (82) of said associated portion (76) in response to a pre-warming signal [Paragraph 4 lines 7-10, Paragraph 5, Paragraph 6 lines 9-12]; and a controller (60, Fig. 1) configured to generate the pre-warming signal for one or more heater elements (78) based on a selection criteria for generating the pre-warming signal only when the nozzle (82) of said associated portion (76) is required to eject ink during an upcoming print swath [Paragraph 5, Paragraph 6, Paragraph 7 lines 2-23], and wherein the pre-warming signal is generated before starting to print the upcoming print swath [Paragraph 5, Paragraph 6]. However, Kao et al. (2002/0018086) does not teach wherein the selection criteria is based upon a desired print quality of a resulting image formed by ink ejection of selected nozzles.

Yamada et al. (701') teaches wherein the selection criteria is based upon a desired print quality of a resulting image formed by ink ejection of selected nozzles [Column 13 liens 52-61].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a selection criteria based on upon a desired print quality of a resulting image formed by ink ejection of selected nozzles as taught by Yamada et al. (701') in the printing system Kao et al. (2002/0018086) for the purpose of executing printing at several print modes and resolutions [*Yamada et al. (701')* Column 13 lines 52-58].

In re claim 7, Kao et al. (2002/0018086) in combination with Yamada et al. (701') teach the printing system of claim 6. However, Kao et al. (2002/0018086) does not teach a first selection provides a first print quality, and a second selection provides a second print quality less than said first print quality; one of said plural portions is configured to dispense ink of a first color having a first dye load, and another of said plural portions is configured to dispense ink of the first color having a second dye load less than said first dye load; each portion comprises two groups of nozzles which dispense a single color of ink; when printing under the first selection, ink is dispensed from both of said one and said another of said plural portions and from said two groups of nozzles thereof; and when printing under the second selection, ink is dispensed from only one of said two groups of nozzles per portion of the printhead.

Yamada et al. (701') further teaches a first selection provides a first print quality, and a second selection provides a second print quality less than said first print quality [Column 2 lines 15-29]. However, *Yamada et al. (701')* does not teach one of said plural portions is configured to dispense ink of a first color having a first dye load, and another of said plural portions is configured to dispense ink of the first color having a second dye load less than said first dye load; each portion comprises two groups of nozzles which dispense a single color of ink; when printing under the first selection, ink is dispensed from both of said one and said another of said plural portions and from said two groups of nozzles thereof; and when printing under the second selection, ink is dispensed from only one of said two groups of nozzles per portion of the printhead.

Peterson et al. (2003/0137575) teaches one of said plural portions is configured to dispense ink of a first color having a first dye load, and another of said plural portions is configured to dispense ink of the first color having a second dye load less than said first dye load; each portion comprises two groups of nozzles which dispense a single color of ink; when printing under the first selection, ink is dispensed from both of said one and said another of said plural portions and from said two groups of nozzles thereof; and when printing under the second selection, ink is dispensed from only one of said two groups of nozzles per portion of the printhead [Paragraphs 12, 35, 35, and Paragraph 23 lines 5-19].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the first selection to include a first print quality and a second selection to include a second print quality less than the first print quality as

taught by Yamada et al. (701') in the printing system of Kao et al. (2002/0018086) in combination with Yamada et al. (701'0 for the purposes of controlling the print resolution of two printheads independently [Yamada et al. (701') Column 2 lines 15-20] and to provide plural portions to dispense ink of a first color having a first dye load from one of the plural portions and another of the plural portions to dispense ink of the first color having a second dye load less than the first dye load, to dispense ink from both of said one and said another of the plural portions when printing under a first selection, and dispense ink from only one of the two groups of nozzles per portion of the printhead when printing under the second selection as taught by Peterson et al. (2003/0137575) in the printing system of Kao et al. (2002/0018086) in combination with Yamada et al. (701') for the purposes of reducing the problems associated with aerodynamic disturbances caused when ink drops are deposited on a printing surface [Peterson et al. (2003/0137575) Paragraph 11].

6. Claims 15 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (6,359,701) in view Silverbrook (6,634,735).

In re claim 15, Yamada et al. (701') teaches A method of pre-warming a multi-color inkjet printhead having plural portions dispensing ink, comprising: determining a type of media upon which an image is to be printed; and in response to said determining, selecting which of said plural portions are a dispensing portion required, to dispense ink for printing of a print swath, and which of said plural portions are a non-dispensing portion not required to dispense ink during printing of the print swath upon

said determined type of media [Col. 12 lines 33-44; Col. 85 lines 17-36]. However, Yamada et al. (701') does not teach generating a pre-warming signal for said dispensing portion before beginning printing of the print swath; pre-warming said dispensing portion in response to the pre-warming signal before beginning printing of the print swath; and omitting generation of a pre-warming signal for said non-dispensing portion to produce no pre-warming thereof.

Silverbrook (735') teaches generating a pre-warming signal for said dispensing portion before beginning printing of the print swath; pre-warming said dispensing portion in response to the pre-warming signal before beginning printing of the print swath; and omitting generation of a pre-warming signal for said non-dispensing portion to produce no pre-warming thereof [Column 8 lines 51-59, Column 9 lines 4-23].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the generation of a pre-warming signal for said dispensing portions before beginning printing of the print swath; pre-warming said dispensing portions in response to the pre-warming signal before beginning printing of the print swath; and omitting generation of a pre-warming signal for said non-dispensing portion to produce no pre-warming thereof as taught by *Silverbrook* (735') in the method of Yamada et al. (701') for the purposes of providing operating conditions necessary for printing [*Silverbrook* (735') Column 9 lines 9-23].

In re claim 17, Yamada et al. (701') teaches a method of pre-warming a multi-color inkjet printhead having plural portions dispensing ink, comprising: determining a

print quality for printing an upcoming image; in response to said determining, selecting which of said plural portions m-e a dispensing portion required to dispense ink for printing of a print swath, and which of said plural portions are a non-dispensing portion not required to dispense ink during printing of said upcoming image [Column 2 lines 21-36].. However, Yamada et al. (701') does not teach generating a pre-warming signal for said dispensing portion before beginning printing of the print swath; pre-warming said dispensing portion in response to the pre-warming signal before beginning printing of the print swath; and omitting generation of a pre-warming signal for said non-dispensing portion to produce no pre-warming thereof.

Silverbrook (735') teaches generating a pre-warming signal for said dispensing portion before beginning printing of the print swath; pre-warming said dispensing portion in response to the pre-warming signal before beginning printing of the print swath: and omitting generation of a pre-warming signal for said non-dispensing portion to produce no pre-warming thereof [Column 8 lines 51-59, Column 9 lines 4-23].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the generation of a pre-warming signal for said dispensing portions before beginning printing of the print swath; pre-warming said dispensing portions in response to the pre-warming signal before beginning printing of the print swath: and omitting generation of a pre-warming signal for said non-dispensing portion to produce no pre-warming thereof as taught by *Silverbrook* (735') in the method of Yamada et al. (701') for the purposes of controlling the temperature of an inkjet printhead to be in a predetermined bound [*Silverbrook* (735') Column 8 lines 47-51].

7. Claims 31-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kao et al. (2002/0018086) in view of Yamada et al. (6,359,701).

In re claim 31, Kao et al. (2002/0018086) teaches the printing system of claim 1 [see rejection above]. However, Kao et al. (2002/0018086) does not teach the selection criteria is derived at least in part from a parameter specified by a user of the printing system, the parameter different from the print data.

Yamada et al. (701') teaches the selection criteria is derived at least in part from a parameter specified by a user of the printing system, the parameter different from the print data [Column 1 lines 63-65, Column 2 lines 36-41].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a user specified parameter different from the print data to comprise part of the selection criteria taught by Yamada et al. (701') in the printing system of Kao et al. (2002/0018086) for the purposes of allowing the user to designate different resolutions for text and non-text [Yamada et al. (701') Column 2 lines 39-41].

In re claim 32, Kao et al. (2002/0018086) teaches Kao et al. (2002/0018086) teaches the printing system of claim 1 [see rejection above]. However, Kao et al. (2002/0018086) does not teach the selection criteria comprises at least two selection criteria.

Yamada et al. (701') teaches the selection criteria comprise at least two selection criteria [Column 1 line 63-Column 2 line 3].

It would have been obvious to one of ordinary skill in the art at the time the invention was made to be motivated to provide the selection criteria to comprise at least two selection criteria taught by Yamada et al. (701') in the printing system of Kao et al. (2002/0018086) for the purposes of automatic printhead resolution determination [Yamada et al. (701') Column 1 line 66-Column 2 line 3].

Allowable Subject Matter

8. Claims 12, 14, 16, 18-19, 20, 24-25, 27, 33-34, and 37-39 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: Claims 12, 20, 24-25, 27, and 33-34 are still allowable for the reasons set forth in previous office actions.

The following is a statement of reasons for the indication of allowable subject matter: In regards to claims 14, 16, 18-19, and 37-39, the prior art does not disclose or suggest the claimed "wherein the pre-warming signal to the dispensing portion is generated in accordance with a predefined selection criteria that specifies an event after which the pre-warming signal ceases" in combination with the remaining claim limitations.

Response to Arguments

9. Applicant's arguments with respect to claims 1-2, 3-7, 14-19, 31-32, and 35-36 have been considered but are moot in view of the new ground(s) of rejection.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that

any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

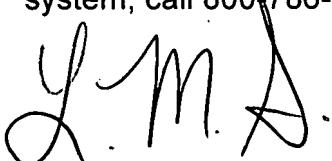
10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lisa M. Solomon whose telephone number is (571) 272-1701. The examiner can normally be reached on Monday - Friday from 8:00 am - 4:30

pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Luu can be reached on (571) 272-7663. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Lisa M. Solomon
Patent Examiner
5/3/2007



MATTHEW LUU
PRIMARY EXAMINER